

ABSTRACT OF THE DISCLOSURE

A method is provided for depositing a silicon-containing film on a substrate by a low pressure deposition process in a processing system. A silicon-containing film can be formed on a substrate by providing a substrate in a process chamber of a processing system, heating the substrate, and exposing a hexachlorodisilane (HCD) process gas to the substrate. The method can selectively deposit an epitaxial silicon-containing film on a silicon surface of a substrate or, alternately, non-selectively deposit a silicon-containing film on a substrate. A processing tool containing a processing system for forming a silicon-containing film on a substrate using a HCD process gas is provided.